CLAIMS

1. A method of inducing gamete maturation to be competent to fertilise in marine worms of the family *Arenicolidae* which exhibit epidemic spawning, said method comprising:
providing maturing male and/or female worms in a housing substrate in sea water at a temperature of 4 to 8°C for a time period of 14 to 24 days.

2. The method as claimed in Claim 1 wherein the worms are maintained at a temperature of 5 to 7°C for 20 to 22 days.

3. A method for inducing spawning of marine worms of the family *Arenicolidae* which exhibit epidemic spawning, said method comprising inducing gamete maturation by the method of either one of Claims 1 and 2, and further comprising exposing the worms to a hormone able to induce gamete release.

4. The method of Claim 3 wherein said worms are male worms and said hormone is 8,11,14-eicosatrienoic acid.

5. The method of Claim 3 wherein said worms are female worms and said hormone is provided as an homogenate of prostomium.

6. A method for inducing spawning of marine worms of the family *Arenicolidae* and which exhibit epidemic spawning, said method comprising inducing gamete maturation by the method of either one of Claims 1 and 2, and further including raising the temperature of the sea water to 12 to 14°C.

7. The method as claimed in Claim 6 wherein the temperature of the sea water is increased at a rate of 1°C per hour to 12 to 14°C.

8. The method as claimed in any one of Claims 1 to 7 wherein said marine worms are *Arenicolidae marina* or *Arenicola defodiens*.

9. The method as claimed in any one of Claims 1 to 8 wherein said substrate is sand.

10. The method as claimed in any one of Claims 1 to 9 wherein said marine worms are cultured worms which have previously been maintained at a temperature of 14 to 16°C for at least one month.